Special Report

Notes From the Director
National Heart, Lung, and Blood Institute
Fostering the Independence of New Investigators

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As mentioned in my inaugural column (*Circulation*. 2005;112:145–146), I am strongly committed to ensuring the continuing vigor of the research enterprise through training and career development of new investigators. The nurturing of young talent was a high priority during my tenure in academic medicine, particularly because it coincided with a time of constrained budgets that resulted in the virtual loss of a generation of promising young investigators. Thereafter, as Scientific Director of the NHLBI, I created an Office of Education to raise the visibility and stature of training and mentoring in our intramural research program.

It is clear that much, if not most, of the momentum in this arena must continue to come from the scientists in our laboratories and clinics who are in a position to recruit and mentor young researchers and to show them the path to a rewarding career. Nonetheless, as we confront another spell of budget constraints, I believe that the NHLBI can and should look for innovative ways to spark this effort. Most particularly, we need to create a better springboard to launch junior investigators into independent careers. In practical terms, that entails increasing the rate at which trainees achieve independent funding through an NHLBI research project grant (RPG). We have taken several noteworthy steps to do so.

Increased Pay Line

The institute has increased the RPG pay line for new investigators by 5 percentile points. Currently, for instance, we are paying to the 19th percentile for general applicants but reaching to the 24th percentile for new investigators. We estimate that this move will enable us to support an additional 43 awards to new investigators, for a total of 153 new investigator grants in fiscal year 2005. During fiscal year 2006, the NHLBI will also increase the pay line of Mentored Career Development (K-series) Awards by 5 percentage points to support more individuals early in their research careers and to feed the pipeline of future RPG applicants.

Full Award Duration

To meet the requirement that the average project period not exceed 4 years, the NHLBI typically applies a formula that reduces the duration of some of its grants. We are now excluding new investigator grants from this calculation and funding all such awards at the level recommended by the initial review group (IRG). We believe that full-term funding will increase the productivity of investigators during their initial period of independence and thereby render them more competitive for subsequent grant support.

Expedited Review

Beginning in fiscal year 2006, the NHLBI will enable an expedited review for new investigator RPG applications that "miss" the new investigator pay line by 5 percentage points or fewer. Rather than requiring investigators to submit amended applications for a full round of review—a process that takes 6 months or longer—we will permit them to address IRG concerns in a communication for consideration by the National Heart, Lung, and Blood Advisory Council. If the council deems that IRG concerns have been addressed satisfactorily, the application will be funded promptly.

Other Approaches

The NHLBI has for many years been a strong supporter of K-series awards as an avenue to research independence. To broaden the accessibility and to maximize the utility of such awards, we recently revised the special leave guidelines to accommodate personal and family circumstances (eg, medical conditions, disability, childrearing, elder care). The new policies permit eligible awardees to take a leave of absence during the award period, to train at a lower level of effort for a longer period of time, or to pursue part of the training period at another institution.

Unfortunately, only about 20% of K-awardees are successful in obtaining RPGs. We are anxious to understand the reasons for this phenomenon and to develop strategies that may increase the yield of K-awards. In this regard, the NHLBI joins the NIH in supporting a proposal to establish a standardized career transition program that would include a phase I mentored K-series award that transitions to a phase II R-series award contingent on securing an independent research position.

The NHLBI also is exploring the feasibility of expanding its current training program into a comprehensive network that includes significant mentoring and career development

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components, laboratory and project management training, and grant writing experiences. In addition, we are contemplating working with professional societies to establish a "mentoring bank" as an asset for new and established investigators and, especially, for individuals who are training at non–research-intensive institutions.

Resources for Applicants

Let me mention the following resources developed by the NHLBI to assist applicants for its training and career development programs. All can be found on our Web page, www.nhlbi.nih.gov.

- "Helpful Hints" for applicants preparing K-series applications—currently available for K02, K08, K23, K18, and K24 awards.
- "Model Applications" for K-series awards—currently available for K08, K22–3, and K24 awards. Model applications for K02 and K25 awards are being developed.
- Database of active National Research Service Award Training Grants. Grants can be sorted by location, institution, department, type of training (predoctoral, postdoctoral, short-term), or principal investigator.

Next Steps

The institute plans to conduct an internal assessment of its training and career development programs and thereafter to solicit the assistance of scientific leaders in identifying new opportunities and priorities. We look forward to meeting the challenge of creating and sustaining a workforce commensurate with the vitality and dynamics of our research enterprise. We are counting on you, our colleagues in the research community, to join us in this critical endeavor.

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